

IT IS CLAIMED

1. A method for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, the method comprising:

selecting a first information file;

generating, using fingerprinting algorithm, a first fingerprint ID relating to the content of the first information file; and

identifying the first information file using the first fingerprint ID.

2. The method of claim 1 wherein the fingerprinting algorithm corresponds to an MD5 Message-Digest algorithm.

3. The method of claim 1 wherein the fingerprinting algorithm corresponds to a Secure Hash Algorithm (SHA1).

4. The method of claim 1 wherein the first information file is stored at a first peer device, and wherein the first information file has an associated first filename, the method comprising:

storing the first filename and first fingerprint ID at the first peer device.

5. The method of claim 4 further comprising:  
transmitting the first filename and the first fingerprint ID to the database system for storage therein.

6. The method of claim 5 wherein the database system corresponds to a remote database system.

7. The method of claim 1 further comprising:

selecting a second information file having content identical to the first information file;

applying the fingerprinting algorithm to the content of the second information file to thereby generate an identical first fingerprint ID to that of the first information file; and

identifying both the first and the second information file using the first unique fingerprint ID.

8. The method of claim 7 wherein the first information file is stored at a first peer device, and has a first associated filename, and wherein the second information file is stored at a second peer device, and has a second associated filename, the method further comprising:

storing the first associated filename and first fingerprint ID associated with the first information file in the database system; and

storing the second associated filename and first fingerprint ID associated with the second information file in the database system.

9. A method for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective fingerprint ID associated therewith relating to its file content, the method comprising:

transmitting a first message to the database system, the first message including a search request for locating files in the network which match a first search string; and

receiving a first response from the database system, the first response including first information relating to identified files stored in the network which match the first search string;

the first information further including an associated fingerprint ID for each identified file.

10. The method of claim 9 further comprising:  
transmitting a second message to the database system, the second message including a first fingerprint ID selected from the first information; and  
receiving a second response from the database system in response to the second  
5 message;  
the second response including second information, the second information including at least one network address corresponding to at least one peer device that has been identified as having access to at least one file corresponding to the first fingerprint  
ID.  
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11. The method of claim 10 further comprising:  
transmitting a third message to a first peer device of the at least one peer  
devices, the third message corresponding to a request to retrieve a first file identified by  
the first fingerprint ID.  
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12. The method of claim 11 wherein the third message includes the first  
fingerprint ID.
13. The method of claim 11 further comprising:  
20 receiving at least a portion of the file content of the first file from the first peer  
device in response to the third message.
14. A method for accessing information in a peer-to-peer network, the peer-  
to-peer network including a plurality of peer devices and a database system accessible  
25 by at least a portion of the peer devices, each of the peer devices being configured to  
store information files, and further being configured to share content from selected  
information files with at least a portion of the other peer devices in the network,  
wherein each shared file in the network has a respective fingerprint ID associated  
therewith relating to its file content, the method comprising:  
30 transmitting a first message to a first peer device, the first message  
corresponding to a request to retrieve a first file identified by a first fingerprint ID,

wherein the first message includes the first fingerprint ID, and wherein the first fingerprint ID is different than a filename associated with the first file; and

receiving a first portion of the file content of the first file from the first peer device in response to the first message.

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15. The method of claim 14 further comprising:

detecting a failure in a file transfer process associated with the first peer device;

identifying a second portion of the first file content which has not been received;

and

10 transmitting a second message to a second peer device, the second message corresponding to a request to retrieve the second portion of the first file content identified by the first fingerprint ID, wherein the second message includes the first fingerprint ID.

15 16. A method for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network,  
20 wherein each shared file in the network has a respective HASH ID associated therewith relating to its file content, the HASH ID being different from a respective filename associated with each file, the method comprising:

receiving file information from selected peer devices, the file information relating to shared files stored at each of the selected peer devices;

25 the file information including a filename for each shared file, and including a HASH ID for each shared file;

storing the file information in at least one data structure at the database system;

and

identifying a desired shared file in the network using its associated HASH ID.

30

17. The method of claim 16 further comprising identifying an identity of a peer device using a selected HASH ID;

wherein the identified peer device has been identified as storing a file having an associated HASH ID which matches the selected HASH ID.

18. The method of claim 16 further comprising identifying a network  
5 address of a first peer device using a selected HASH ID;

wherein the first peer device has been identified as storing a file having an associated HASH ID which matches the selected HASH ID.

19. A method for accessing information in a peer-to-peer network, the peer-  
10 to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective HASH ID associated therewith  
15 relating to its file content, the HASH ID being different from a respective filename associated with each file, the method comprising:

receiving a first message from a first peer device, the first message including a search request for locating files in the network which match a first search string;

generating a first response to the first message, the response including a first list  
20 of file records relating to files stored in the network which match the first search string, wherein each file record includes an associated HASH ID and an associated filename; and

providing the first list of file records to the first peer device.

25 20. The method of claim 19 further comprising:

excluding from the first list of file records duplicate records in which multiple file records have the same associated HASH ID and filename.

21. The method of claim 19 further comprising:

30 receiving a second message from the first peer device in response to the first response, the second message including at least one HASH ID;

identifying, using said at least one HASH ID, at least one network address corresponding to at least one peer device which has been identified as storing at least one file corresponding to the at least one HASH ID; and

providing, to the first peer device, a second response, the second response  
5 including address information which includes at least a portion of the at least one identified network addresses.

22. A method for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible  
10 by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective HASH ID associated therewith relating to its file content, the HASH ID being different from a respective filename  
15 associated with each file, the method comprising:

identifying a first network addresses corresponding to a first peer device which has been identified as storing a first information file associated with a first HASH ID;

identifying a second network addresses corresponding to a second peer device which has been identified as storing a second information file associated with the first  
20 HASH ID;

transmitting a first message to the first peer device requesting a first portion of file content of the first information file from the first peer device; and

transmitting a second message to the second peer device requesting a second portion of file content of the second information file from the second peer device.  
25

23. The method of claim 22 wherein the first and second messages each include the first HASH ID.

24. The method of claim 22 wherein the first and second messages are  
30 initiated at substantially a same time

25. The method of claim 22 wherein the requesting of the first portion of file content from the first peer device occurs concurrently with the requesting of the second portion of file content from the second peer device.

5           26. The method of claim 22 further comprising:  
receiving the first portion of file content from the first peer device;  
receiving the second portion of file content from the second peer device;  
generating a third information file which includes the first and second portion of  
file content, wherein the file content of the third information file is identical to the file  
10 content of the first information file.

27. The method of claim 22 further comprising:  
detecting a failure in a file transfer process associated with the first peer device;  
identifying a third network addresses corresponding to a third peer device which  
15 has been identified as storing a third information file associated with the first HASH  
ID;  
transmitting a third message to the third peer device, the third message  
corresponding to a request to retrieve the first portion of file content from the third  
information file.

20           28. The method of claim 22 wherein the first portion of file content  
corresponds to a first chunk of bytes 1 to N of the first information file; and  
wherein the second portion of file content corresponds to a second chunk of  
bytes N+1 to 2N of the second information file.

25           29. A method for accessing information in a peer-to-peer network, the peer-  
to-peer network including a plurality of peer devices and a database system accessible  
by at least a portion of the peer devices, each of the peer devices being configured to  
store information files, and further being configured to share content from selected  
30 information files with at least a portion of the other peer devices in the network,  
wherein each shared file in the network has a respective HASH ID associated therewith

relating to its file content, the HASH ID being different from a respective filename associated with each file, the method comprising:

requesting from a first plurality of peer devices a respective portion of file content from a respective information file, each respective information file being identified as having identical file content and having an identical first HASH ID being associated therewith.

30. The method of claim 29 further comprising:  
receiving from at least a portion of the first plurality of peer devices respective portions of file content from the respective information file; and  
reconstructing the respective portions of file content to assemble a requested information file having file content identical to that corresponding to the first HASH ID being associated therewith.

31. The method of claim 29 further comprising:  
before requesting a respective portion, creating a content map of the file content associated with the first HASH ID, said content map parceling the file content into respective portions from 1 to M.

32. The method of claim 31 further comprising:  
assigning at least one respective portion, from 1 to M, to a first peer device of the first plurality of peer devices to request retrieval thereof.

33. The method of claim 32 further comprising:  
receiving from the first peer device the one respective portion, from 1 to M, of file content from the respective information file; and  
upon retrieval of the entire one respective portion from the first peer device, updating the content map corresponding to the retrieval thereof.

34. The method of claim 33 further comprising:  
upon retrieval of all respective portions, from 1 to M, of file content, reconstructing the respective portions to assemble a requested information file having



file content identical to that corresponding to the first HASH ID being associated therewith.

35. The method of claim 29 further comprising:

5 identifying the network addresses corresponding a first plurality of peer devices, from 1 to X, each of the first plurality of peer devices being identified as storing a respective information file, each having identical file content and having an identical first HASH ID being associated therewith;

10 36. The method of claim 35 further comprising:

before requesting a respective portion, creating a content map of the file content associated with the first HASH ID, said content map parceling the file content into respective portions from 1 to M, where  $M > X$ .

15 37. A system for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, the  
20 system comprising:

at least one CPU

memory

at least one interface for communicating with other devices in the peer-to-peer network;

25 the system being configured or designed to select a first information file;

the system being further configured or designed to applying a fingerprinting algorithm to the content of the selected file to thereby generate a first fingerprint ID relating to the content of the first information file; and

30 the system being further configured or designed to identify the first information file using the first fingerprint ID.

38. The system of claim 37 wherein the fingerprinting algorithm corresponds to an MD5 Message-Digest algorithm.

39. The system of claim 37 wherein the fingerprinting algorithm  
5 corresponds to a Secure Hash Algorithm (SHA1).

40. The system of claim 37 wherein the first information file is stored at a first peer device, and wherein the first information file has an associated first filename; and  
10 wherein the system is further configured or designed to store the first filename and first fingerprint ID at the first peer device.

41. The system of claim 40 being further configured or designed to transmit the first filename and the first fingerprint ID to the database system for storage therein.  
15

42. The system of claim 41 wherein the database system corresponds to a remote database system.

43. The system of claim 37 being further configured or designed to select a  
20 second information file having content identical to the first information file;  
the system being further configured or designed to apply the fingerprinting algorithm to the content of the second information file to thereby generate an identical first fingerprint ID to that of the first information file; and  
the system being further configured or designed to identify both the first and the  
25 second information file using the first unique fingerprint ID.

44. The system of claim 43 wherein the first information file is stored at a first peer device, and has a first associated filename, and wherein the second information file is stored at a second peer device, and has a has second associated  
30 filename;

the system being further configured or designed to store the first associated filename and first fingerprint ID associated with the first information file in the database system; and

the system being further configured or designed to store the second associated  
5 filename and first fingerprint ID associated with the second information file in the database system.

45. A system for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible  
10 by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective fingerprint ID associated therewith relating to its file content, the system comprising:

15 at least one CPU  
memory  
at least one interface for communicating with other devices in the peer-to-peer network;

the system being configured or designed to transmit a first message to the  
20 database system, the first message including a search request for locating files in the network which match a first search string; and

the system being further configured or designed to receive a first response from the database system, the first response including first information relating to identified files stored in the network which match the first search string;

25 the first information further including an associated fingerprint ID for each identified file.

46. The system of claim 45 being further configured or designed to transmit a second message to the database system, the second message including a first  
30 fingerprint ID selected from the first information; and

the system being further configured or designed to receive a second response from the database system in response to the second message;

the second response including second information, the second information including at least one network address corresponding to at least one peer device that has been identified as having access to at least one file corresponding to the first fingerprint ID.

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47. The system of claim 46 being further configured or designed to transmit a third message to a first peer device of the at least one peer devices, the third message corresponding to a request to retrieve a first file identified by the first fingerprint ID.

10 48. The system of claim 47 wherein the third message includes the first fingerprint ID.

15 49. The system of claim 47 being further configured or designed to receive at least a portion of the file content of the first file from the first peer device in response to the third message.

20 50. A system for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective fingerprint ID associated therewith relating to its file content, the system comprising:

25 at least one CPU  
memory  
at least one interface for communicating with other devices in the peer-to-peer network;

30 the system being configured or designed to transmit a first message to a first peer device, the first message corresponding to a request to retrieve a first file identified by a first fingerprint ID, wherein the first message includes the first fingerprint ID, and wherein the first fingerprint ID is different than a filename associated with the first file;  
and

the system being further configured or designed to receive a first portion of the file content of the first file from the first peer device in response to the first message.

51. The system of claim 50 being further configured or designed to detect a failure in a file transfer process associated with the first peer device;

the system being further configured or designed to identify a second portion of the first file content which has not been received; and

the system being further configured or designed to transmit a second message to a second peer device, the second message corresponding to a request to retrieve the second portion of the first file content identified by the first fingerprint ID, wherein the second message includes the first fingerprint ID.

52. A system for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective HASH ID associated therewith relating to its file content, the HASH ID being different from a respective filename associated with each file, the system comprising:

at least one CPU

memory

at least one interface for communicating with other devices in the peer-to-peer network;

the system being configured or designed to receive file information from selected peer devices, the file information relating to shared files stored at each of the selected peer devices;

the file information including a filename for each shared file, and including a HASH ID for each shared file;

the system being further configured or designed to storing the file information in at least one data structure at the database system; and

the system being further configured or designed to identify a desired shared file in the network using its associated HASH ID.

53. The system of claim 52 being further configured or designed to identify an identity of a peer device using a selected HASH ID;

wherein the identified peer device has been identified as storing a file having an associated HASH ID which matches the selected HASH ID.

54. The system of claim 52 being further configured or designed to identify a network address of a first peer device using a selected HASH ID;

wherein the first peer device has been identified as storing a file having an associated HASH ID which matches the selected HASH ID.

55. A system for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective HASH ID associated therewith relating to its file content, the HASH ID being different from a respective filename associated with each file, the system comprising:

at least one CPU

memory

at least one interface for communicating with other devices in the peer-to-peer network;

the system being configured or designed to receive a first message from a first peer device, the first message including a search request for locating files in the network which match a first search string;

the system being further configured or designed to generate a first response to the first message, the response including a first list of file records relating to files stored in the network which match the first search string, wherein each file record includes an associated HASH ID and an associated filename; and

the system being further configured or designed to provide the first list of file records to the first peer device.

56. The system of claim 55 further being further configured or designed to  
5 exclude from the first list of file records duplicate records in which multiple file records have the same associated HASH ID and filename.

57. The system of claim 55 being further configured or designed to receive a  
10 second message from the first peer device in response to the first response, the second message including at least one HASH ID;

the system being further configured or designed to identify, using said at least one HASH ID, at least one network address corresponding to at least one peer device which has been identified as storing at least one file corresponding to the at least one HASH ID; and

15 the system being further configured or designed to provide, to the first peer device, a second response, the second response including address information which includes at least a portion of the at least one identified network addresses.

58. A system for accessing information in a peer-to-peer network, the peer-  
20 to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective HASH ID associated therewith  
25 relating to its file content, the HASH ID being different from a respective filename associated with each file, the system comprising:

at least one CPU

memory

at least one interface for communicating with other devices in the peer-to-peer  
30 network;

the system being configured or designed to identify a first network addresses corresponding to a first peer device which has been identified as storing a first information file associated with a first HASH ID;

the system being further configured or designed to identify a second network  
5 addresses corresponding to a second peer device which has been identified as storing a second information file associated with the first HASH ID;

the system being further configured or designed to transmit a first message to the first peer device request a first portion of file content of the first information file from the first peer device; and

10 the system being further configured or designed to transmit a second message to the second peer device request a second portion of file content of the second information file from the second peer device.

59. The system of claim 58 wherein the first and second messages each  
15 include the first HASH ID.

60. The system of claim 58 wherein the first and second messages are initiated at substantially a same time

20 61. The system of claim 58 wherein the request of the first portion of file content from the first peer device occurs concurrently with the request of the second portion of file content from the second peer device.

62. The system of claim 58 being further configured or designed to receive  
25 the first portion of file content from the first peer device;

the system being further configured or designed to receive the second portion of file content from the second peer device; and

the system being further configured or designed to generate a third information file which includes the first and second portion of file content, wherein the file content  
30 of the third information file is identical to the file content of the first information file.



63. The system of claim 58 being further configured or designed to detect a failure in a file transfer process associated with the first peer device;

the system being further configured or designed to identify a third network addresses corresponding to a third peer device which has been identified as storing a  
5 third information file associated with the first HASH ID;

the system being further configured or designed to transmit a third message to the third peer device, the third message corresponding to a request to retrieve the first portion of file content from the third information file.

10 64. The system of claim 58 wherein the first portion of file content corresponds to a first chunk of bytes 1 to N of the first information file; and

wherein the second portion of file content corresponds to a second chunk of bytes N+1 to 2N of the second information file.

15 65. A system for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network,  
20 wherein each shared file in the network has a respective HASH ID associated therewith relating to its file content, the HASH ID being different from a respective filename associated with each file, the system comprising:

at least one CPU

memory

25 at least one interface for communicating with other devices in the peer-to-peer network;

the system being configured or designed to request from a first plurality of peer devices a respective portion of file content from a respective information file, each respective information file being identified as having identical file content and having  
30 an identical first HASH ID being associated therewith.

66. The system of claim 65 being further configured or designed to receive from at least a portion of the first plurality of peer devices respective portions of file content from the respective information file; and

the system being further configured or designed to reconstruct the respective portions of file content to assemble a requested information file having file content identical to that corresponding to the first HASH ID being associated therewith.

67. The system of claim 65 being further configured or designed to create, before request a respective portion, a content map of the file content associated with the first HASH ID, said content map parceling the file content into respective portions from 1 to M.

68. The system of claim 67 being further configured or designed to assign at least one respective portion, from 1 to M, to a first peer device of the first plurality of peer devices to request retrieval thereof.

69. The system of claim 68 being further configured or designed to receive from the first peer device the one respective portion, from 1 to M, of file content from the respective information file; and

the system being further configured or designed to update, upon retrieval of the entire one respective portion from the first peer device, the content map corresponding to the retrieval thereof.

70. The system of claim 69 being further configured or designed to reconstruct, upon retrieval of all respective portions, from 1 to M, of file content, the respective portions to assemble a requested information file having file content identical to that corresponding to the first HASH ID being associated therewith.

71. The system of claim 65 being further configured or designed to identify the network addresses corresponding a first plurality of peer devices, from 1 to X, each of the first plurality of peer devices being identified as storing a respective information

file, each having identical file content and having an identical first HASH ID being associated therewith;

72. The system of claim 71 being further configured or designed to create,  
5 before request a respective portion, a content map of the file content associated with the first HASH ID, said content map parceling the file content into respective portions from 1 to M, where  $M > X$ .

73. A computer program product for accessing information in a peer-to-peer  
10 network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, the computer program product comprising:

15 a computer usable medium having computer readable code embodied therein, the computer readable code comprising:

computer code for selecting a first information file;

computer code for generating, using fingerprinting algorithm, a first fingerprint  
ID relating to the content of the first information file; and

20 computer code for identifying the first information file using the first fingerprint ID.

74. The computer program product of claim 73 wherein the fingerprinting  
algorithm corresponds to an MD5 Message-Digest algorithm.

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75. The computer program product of claim 73 wherein the fingerprinting  
algorithm corresponds to a Secure Hash Algorithm (SHA1).

76. The computer program product of claim 73 wherein the first information  
30 file is stored at a first peer device, and wherein the first information file has an associated first filename, the computer program product comprising:

computer code for storing the first filename and first fingerprint ID at the first peer device.

77. The computer program product of claim 76 further comprising:  
5 computer code for transmitting the first filename and the first fingerprint ID to the database system for storage therein.

78. The computer program product of claim 77 wherein the database system corresponds to a remote database system.  
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79. The computer program product of claim 73 further comprising:  
computer code for selecting a second information file having content identical to the first information file;  
computer code for applying the fingerprinting algorithm to the content of the  
15 second information file to thereby generate an identical first fingerprint ID to that of the first information file; and  
computer code for identifying both the first and the second information file using the first unique fingerprint ID.

80. The computer program product of claim 79 wherein the first information file is stored at a first peer device, and has a first associated filename, and wherein the second information file is stored at a second peer device, and has a has second associated filename, the computer program product further comprising:  
computer code for storing the first associated filename and first fingerprint ID  
25 associated with the first information file in the database system; and  
computer code for storing the second associated filename and first fingerprint ID associated with the second information file in the database system.

81. A computer program product for accessing information in a peer-to-peer  
30 network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share

content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective fingerprint ID associated therewith relating to its file content, the computer program product comprising:

5           a computer usable medium having computer readable code embodied therein, the computer readable code comprising:

          computer code for transmitting a first message to the database system, the first message including a search request for locating files in the network which match a first search string; and

10           computer code for receiving a first response from the database system, the first response including first information relating to identified files stored in the network which match the first search string;

          the first information further including an associated fingerprint ID for each identified file.

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82.    A computer program product for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share  
20   content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective fingerprint ID associated therewith relating to its file content, the computer program product comprising:

          a computer usable medium having computer readable code embodied therein,  
25   the computer readable code comprising:

          computer code for transmitting a first message to a first peer device, the first message corresponding to a request to retrieve a first file identified by a first fingerprint ID, wherein the first message includes the first fingerprint ID, and wherein the first fingerprint ID is different than a filename associated with the first file; and

30           computer code for receiving a first portion of the file content of the first file from the first peer device in response to the first message.

83. A computer program product for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share  
5 content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective HASH ID associated therewith relating to its file content, the HASH ID being different from a respective filename associated with each file, the computer program product comprising:

10 a computer usable medium having computer readable code embodied therein, the computer readable code comprising:

computer code for receiving file information from selected peer devices, the file information relating to shared files stored at each of the selected peer devices;

the file information including a filename for each shared file, and including a  
15 HASH ID for each shared file;

computer code for storing the file information in at least one data structure at the database system; and

computer code for identifying a desired shared file in the network using its associated HASH ID.

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84. A computer program product for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share  
25 content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective HASH ID associated therewith relating to its file content, the HASH ID being different from a respective filename associated with each file, the computer program product comprising:

30 a computer usable medium having computer readable code embodied therein, the computer readable code comprising:

computer code for receiving a first message from a first peer device, the first message including a search request for locating files in the network which match a first search string;

computer code for generating a first response to the first message, the response including a first list of file records relating to files stored in the network which match the first search string, wherein each file record includes an associated HASH ID and an associated filename; and

computer code for providing the first list of file records to the first peer device.

85. A computer program product for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective HASH ID associated therewith relating to its file content, the HASH ID being different from a respective filename associated with each file, the computer program product comprising:

a computer usable medium having computer readable code embodied therein, the computer readable code comprising:

computer code for identifying a first network addresses corresponding to a first peer device which has been identified as storing a first information file associated with a first HASH ID;

computer code for identifying a second network addresses corresponding to a second peer device which has been identified as storing a second information file associated with the first HASH ID;

computer code for transmitting a first message to the first peer device requesting a first portion of file content of the first information file from the first peer device; and

computer code for transmitting a second message to the second peer device requesting a second portion of file content of the second information file from the second peer device.

86. A system for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective HASH ID associated therewith relating to its file content, the HASH ID being different from a respective filename associated with each file, the system comprising:

means for identifying a first network addresses corresponding to a first peer device which has been identified as storing a first information file associated with a first HASH ID;

means for identifying a second network addresses corresponding to a second peer device which has been identified as storing a second information file associated with the first HASH ID;

means for transmitting a first message to the first peer device requesting a first portion of file content of the first information file from the first peer device; and

means for transmitting a second message to the second peer device requesting a second portion of file content of the second information file from the second peer device.

87. A system for accessing information in a peer-to-peer network, the peer-to-peer network including a plurality of peer devices and a database system accessible by at least a portion of the peer devices, each of the peer devices being configured to store information files, and further being configured to share content from selected information files with at least a portion of the other peer devices in the network, wherein each shared file in the network has a respective HASH ID associated therewith relating to its file content, the HASH ID being different from a respective filename associated with each file, the system comprising:

means for receiving a first message from a first peer device, the first message including a search request for locating files in the network which match a first search string;



means for generating a first response to the first message, the response including a first list of file records relating to files stored in the network which match the first search string, wherein each file record includes an associated HASH ID and an associated filename; and

- 5 means for providing the first list of file records to the first peer device.

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